# 6.0 CLIMATE ROOFING SITE - 2700 ISLETA BOULEVARD SW
**NMED Facility Number 3245001**

## 6.1 INTRODUCTION/SITE HISTORY

Based on a comprehensive review of available historical data, past Site knowledge, and completion of a detailed site inspection, FEI/TPA completed the following Site summary. In addition, detailed maps were constructed summarizing known Site conditions and are presented as Figures 6A and 6B. This site was investigated and the remedial AS/VE system was designed, installed and operated by FEI from 1990 to 1996. The site's main office building was demolished subsequent to cessation of remedial activities.

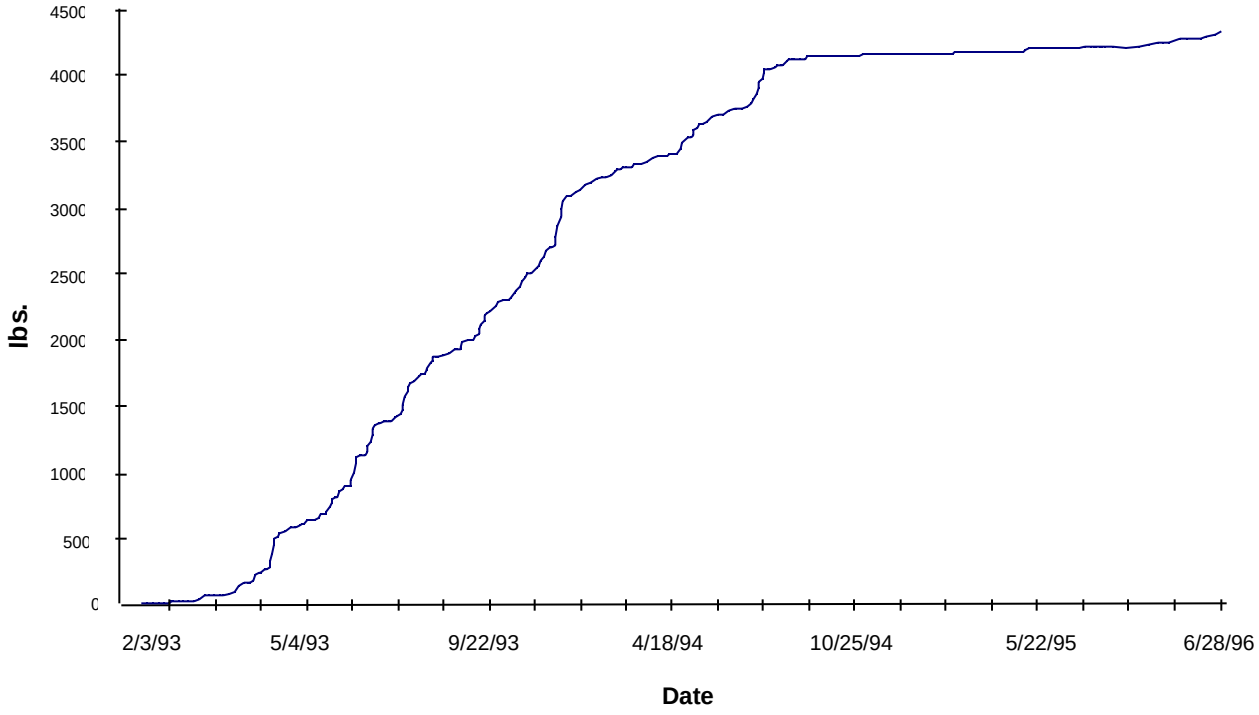
- Hydrocarbon releases were first identified at this Site in 1990 during removal of the former USTs (see Figure 6A) under the direction of the Albuquerque Environmental Health Department. Based on limited laboratory analysis of soil samples, both gasoline and diesel fuels were released at the Climate Site.

- The Site was first investigated by FEI in October, 1990 under contract with the NMED/USTB through their cooperative agreement with the Albuquerque Environmental Health Department (AEHD). The initial site investigation included the completion of 20 boreholes from which 13 monitor wells were completed. The historic site map is shown in Figure 6A and indicates the most recent hydrocarbon plume configuration, borehole/monitor well locations, and the Air Sparge/Vapor Extraction (AS/VE) well configuration.


Site looking NE from Isleta

- Shallow ground water flow has been calculated to flow to the south-southwest at a gradient of approximately $10^{-3}$ ft/foot. Depth to ground water is approximately 7 to 8 feet below ground surface (bgs). Site geology is characterized as silty sand from the surface to a depth of approximately 5 feet bgs, which is underlain by well-sorted medium sand.

- Pilot testing for the installation of an AS/VE remediation system took place in July, 1992. Installation of the AS/VE system took place in December, 1992, and the system was started in January, 1993. Initial start up problems included the need to install noise abatement materials to reduce the blower/vacuum pump equipment vibrations in the wooden remediation equipment enclosure, compressor/blower heat induced failure of above ground sparge manifold headers, and other minor mechanical problems.




- The Climate AS/VE system operated until June, 1996, during which time significant ground water hydrocarbon reductions were made. The final ground water benzene concentrations from June, 1996 and those collected subsequently by NMED/USTB are shown on Figure 6A. During March, 1994, soil test borings were completed to determine the degree of TPH reductions in the soil vadose zone. Results of those determinations are also shown on Figure 6A. This soil TPH extent is representative of soil conditions after 14 months of a total 40-month operational history, and do not represent the final cleanup levels. The hydrocarbon recovery curve (shown above) from the operational history of the AS/VE system at the Climate site shows approximately 4200 lbs. (700 gal.) of hydrocarbon were recovered via physical extraction. An unknown amount was also removed via enhanced in-situ biodegradation. NMED/USTB has conducted a limited amount of ground water sampling at the site since 1996, and the results indicate that BTEX levels have increased in monitor well MW-11. It is apparent from this data that the Site has experienced some "rebound" of BTEX and an unknown amount of soil contamination is still present.


Site looking East from Isleta

- The area to the southwest of the UST release area was formerly occupied by a home/office building that was destroyed by fire in 1997 and has since been removed. The former AS/VE system was unable to remove ground water and soil contamination under this former building. The extent of damage to the on-site, below-grade AS/VE

wells and manifolding due to demolition or other activity at the site since June, 1996 is unknown.

- Subsequent to the June, 1996 system shutdown, the Site's above ground mechanical remediation components were removed by FEI after the landowner requested their removal to allow site demolition to proceed. The equipment was stored by FEI and turned over to NMED/USTB in December, 1997.

## 6.2 EXISTING SITE CONDITIONS

Based on the above, the following deficiencies need to be addressed:

- The former AS/VE system at the Site was successful in lowering ground water contamination to below NMWQCC standards in all but a few monitoring wells. However, it is apparent from subsequent sampling and analysis that was conducted by the NMED/USTB that ground water BTEX concentrations are increasing and residual soil TPH levels are still elevated. Confirmation soil borings need to be advanced to evaluate current subsurface contaminant conditions.

- The former AS/VE system was unable to remove ground water and soil contamination under the former home/office building. The extent of damage to the on-site, below-grade AS/VE wells and manifolding due to demolition or other activity at the site since June, 1996 is unknown.

## 6.3 RECOMMENDED ACTIONS

**Task One – Site Review and Work Plan Development**

This task provides for the review of FEI and NMED/USTB files, site mapping and photography, review of historic ground water and soils data, and final preparation of this work plan for additional investigation.

**Task Two – Sample Existing Wells and Conduct Three Additional Quarterly Sampling Rounds**

Groundwater in all usable wells (ten existing wells) will be sampled during an initial event for organic parameters including BTEX, MTBE, EDC, EDB, and naphthalene using EPA Method 8260. It is believed that at least three of the existing wells, MW-6, 7 and 13 (see Figure 6A), were destroyed during building demolition. The following natural attenuation indicators will also be sampled for using field test kits: dissolved oxygen (DO), nitrate ($NO_3$), dissolved and total iron (Fe), alkalinity ($HCO_3/CO_3$), phosphate ($PO_4$), and sulfate ($SO_4$). Additional field tests will include pH, temperature, and conductivity. FEI/TPA will provide NMED/USTB and BCEHD 48-hour notification prior to initiating any sampling.

We also propose three additional quarters of groundwater sampling for BTEX, TMB, EDB, EDC and MTBE using EPA Method 8021 (EDX) and for the above natural attenuators. The additional three wells

that are proposed to be completed will also be sampled for these parameters after their completion during Task 3. We propose sampling 10 wells in the second, third and fourth quarters.

During each sampling event ground water levels will be measured prior to sampling. Collected data will be used to refine drilling locations as needed in Task Three below. New locks and well caps will be installed on each usable well. Quarterly reports will be submitted according to the requirements of USTR §1216.

## Task Three – Hydrogeologic Investigation

**General** – FEI/TPA will characterize the magnitude and extent of residual soil and ground water contamination in the vicinity of the Climate Site through advancement and sampling of soil borings and monitor wells. Tentative drilling locations are shown in Figure 6B. For the purposes of cost estimation and based on a comprehensive review of the Site data, we propose the following number of soil borings and wells:

### Projected Drilling Activity

10 - Soil borings
3 - 2" diameter shallow completion monitor wells

All soil borings will be sampled on a continuous basis using either 2-foot long split spoons or 5 foot long core barrels. PID headspace analysis will be conducted on retrieved soil samples at five-foot intervals or less and at the water table. One to two laboratory soil samples will be collected from each drilling location and analyzed for TPH (gasoline-diesel range) using EPA method 8015 modified and for BTEX and MTBE using EPA method 8021. Samples will be collected for gasoline-range compounds using methanol extraction kits and unpreserved 4-oz jars for diesel-range compounds. New ground water monitoring wells installed during this task will be sampled and analyzed for the same EPA 8260 hydrocarbon parameters, natural attenuation indicators and field tests which were described for the initial well sampling in Task 2. Additionally, all new and existing wells will be surveyed to a common USGS (or other) established Mean Sea Level benchmark datum by a NM licensed surveyor.

**Aquifer Hydraulic Properties** - Pursuant to the requirements of the USTR Part XII, Section 1210, FEI/TPA recommend evaluation of Site hydrogeologic properties through laboratory testing of retrieved sediment samples. Data collected from these activities will be used to determine grain size distribution, grain and bulk density, specific permeability (k) and effective porosity (n). Hydraulic properties such as storativity, transmissivity (T), and hydraulic conductivity (K) can then be estimated using sediment sample data. This information will then be used to calculate average ground water and contaminant migration rates, which are necessary in risk assessment calculations and/or determination of potential remedial alternatives. We recommend the three monitor well locations to collect discrete sediment samples for laboratory characterization. Two samples will be collected from each location; one in the vadose zone and one in the shallow saturated zone. In addition to the above, two of the samples will also be analyzed for total organic carbon content (TOC).

**Task Four - Completion of the Hydrogeologic Investigation (HI) Report**

Upon receipt of all field data, FEI/TPA will prepare a summary HI report. This Report will include geologic and contaminant distribution cross sections, isoconcentration maps, a ground water isocontour map, appropriate tables, and text summarizing the results of the investigation as it relates to plume characterization and site remediation, and the requirements of the USTR. In addition, residual hydrocarbon spill mass estimates will be included.

# Historic Site Map

Climate Roofing Site
2700 Isleta Blvd. SW
Albuquerque, New Mexico

FEI | FAITH ENGINEERING, INC.

TECUMSEH
PROFESSIONAL ASSOCIATES, INC.

| | | | |
|---|---|---|---|
| Drawn by: | WJB/CAF* | 7/99 | Client: BCEHD |
| Drafted by: | SEF/CF | 7/99 | Project: 99-99-1190 |
| Reviewed by: | WJB/CF | 7/99 | Figure: 6A |

Extent of Soil TPH >100 ppm in 1994

Extent of Ground Water Contamination in 1997

MW-1
MW-2
MW-3
MW-4
MW-5
MW-6
MW-7
MW-8
MW-9
MW-10
MW-11
MW-12
MW-13

Climate Roofing Shop and Warehouse.

Sonic Drivein

Curbs

Phone Booths

Isleta Blvd.

Luna Residence

Nat. Gas Meter

Sign

Mail Boxes

Mobile Building

Residences

## LEGEND

- Existing Monitor Well Location
- Monitor Well Lost or Destroyed
- Below Ground Sparge/vent Remediation System Piping
- Utility Pole
- Building
- Concrete
- Gate In Fence
- Fence Line
- Trees/vegetation
- Underground/overhead Utility

N

0 40 ft
Scale

# Proposed Borehole and Monitor Well Locations

Climate Roofing Site
2700 Isleta Blvd. SW
Albuquerque, New Mexico

FEI | FAITH ENGINEERING, INC.

TECUMSEH
PROFESSIONAL ASSOCIATES, INC.

| | | | |
|---|---|---|---|
| Drawn by: | WJB/CAF* | 7/99 | Client: BCEHD |
| Drafted by: | SEF/CF | 7/99 | Project: 99-99-1190 |
| Reviewed by: | WJB/CF | 7/99 | FIGURE: 6B |

## LEGEND

- Existing Monitor Well Location
- Monitor Well Lost or Destroyed
- Below Ground Sparge/vent Remediation System Piping
- Utility Pole
- Building
- Concrete
- Gate In Fence
- Fence Line
- Trees/vegetation
- Underground/overhead Utility

- Proposed Soil Borng
- 2" Dia.air Sparging Well
- Proposed Dual Completion Pilot Test Well
- 2" Dia. Vapor Extraction Well
- Proposed 2" Dia. Monitor Well

0 40 ft
Scale

N

MW-1
MW-2
MW-3
MW-4
MW-5
MW-6
MW-7
MW-8
MW-9
MW-10
MW-11
MW-12
MW-13

Climate Roofing Shop and Warehouse.
Sonic Drivein
Curbs
Phone Booths
Isleta Blvd.
Luna Residence
Nat. Gas Meter
Sign
Mail Boxes
Mobile Building
Residences

12/1/95•BJWR 0

**NEW MEXICO CORRECTIVE ACTION FUND COST DETAIL FORM — SUMMARY SHEET**

**Site Name:** Climate Roofing

**Site Address:** 2700 Isleta SW
Albuquerque, NM 87105

| **Circle only one:** | **Circle only one:** | | |
|---|---|---|---|
| | Minimum Site Assessment | Phase 2 — Free Product / Saturated Soil Recovery | Phase 4 — Reclamation Implementation |
| ***Work plan*** ***Claim*** | Phase 1 — Hydrogeo Investigation | Phase 3 — Reclamation Proposal | Phase 5 — Operations and Maintenance |

**FIXED-PRICE CONTRACT FOR ALL TASKS IN PHASE 1 AND 5**

**NMED Use Only**

| **SUMMARY SHEET** | **TOTAL** | Project Manager | Auditor |
|---|---|---|---|
| PROFESSIONAL SERVICES | $26,980.00 | | |
| TAXABLE EXPENSES | $3,456.25 | | |
| TAXABLE SUBCONTRACTORS | $10,990.35 | | |
| TAXABLE SUBTOTAL | $41,426.60 | | |
| NMGRT RATE 5.5625% X TAXABLE SUBTOTAL = | $2,304.35 | | |
| **TOTAL** | $43,730.95 | | |
| NONTAXABLE EXPENSES | | | |
| NONTAXABLE SUBCONTRACTORS | | | |
| NONTAXABLE SUBTOTAL | | | |
| **GRAND TOTAL OF CLAIM** | $43,730.95 | | |

12/1/95•BJWR

**NEW MEXICO CORRECTIVE ACTION FUND COST DETAIL FORM — PROFESSIONAL SERVICES**

**Site Name:** Climate Roofing

**Site Address:** 2700 Isleta SW
Albuquerque, NM 87105

**Circle only one:**

***Work plan*** ***Claim***

**Circle only one:**

Minimum Site Assessment

Phase 1 — Hydrogeo Investigation

Phase 2 — Free Product / Saturated Soil Recovery

Phase 3 — Reclamation Proposal

Phase 4 — Reclamation Implementation

Phase 5 — Operations and Maintenance

**FIXED-PRICE CONTRACT FOR ALL TASKS IN PHASE 1 AND 5**

**NMED Use Only**

| **PROFESSIONAL SERVICES** | Invoice # | Rate | Unit | # of Units | Total | Project Manager | Auditor |
|---|---|---|---|---|---|---|---|
| Initial Sampling +3 qtrs gw monitoring | | | | | $9,980.00 | | |
| Drilling & Sampling (Hydrogeologic Investigation | | | | | $5,840.00 | | |
| Hydrogeologic Report | | | | | $11,160.00 | | |
| **SUBTOTAL** | | | | | $26,980.00 | | |

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**NEW MEXICO CORRECTIVE ACTION FUND COST DETAIL FORM — EXPENSES**

**Site Name:** Climate Roofing

**Site Address:** 2700 Isleta SW
Albuquerque, NM 87105

**Circle only one:**

***Work plan*** ***Claim***

**Circle only one:**

Minimum Site Assessment

Phase 1 — Hydrogeo Investigation

Phase 2 — Free Product / Saturated Soil Recovery

Phase 3 — Reclamation Proposal

Phase 4 — Reclamation Implementation

Phase 5 — Operations and Maintenance

**FIXED-PRICE CONTRACT FOR ALL TASKS IN PHASE 1 AND 5**

**NMED Use Only**

| **EXPENSES** | Invoice # | Rate | Unit | # of Units | Total | Project Manager | Auditor |
|---|---|---|---|---|---|---|---|
| **NONTAXABLE** | | | | | | | |
| **N/A** | | | | | | | |
| **NONTAXABLE SUBTOTAL** | | | | | | | |
| **TAXABLE** | | | | | | | |
| Initial Sampling +3 qtrs gw monitoring | | | | | $2,121.00 | | |
| Drilling & Sampling (Hydrogeologic Investigation | | | | | $1,270.50 | | |
| Hydrogeologic Report | | | | | $64.75 | | |
| **TAXABLE SUBTOTAL** | | | | | $3,456.25 | | |

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**NEW MEXICO CORRECTIVE ACTION FUND COST DETAIL FORM — SUBCONTRACTOR CHARGES**

**Site Name:** Climate Roofing

**Site Address:** 2700 Isleta SW
Albuquerque, NM 87105

**Circle only one:**

***Work plan*** ***Claim***

**Circle only one:**

Minimum Site Assessment

Phase 1 — Hydrogeo Investigation

Phase 2 — Free Product / Saturated Soil Recovery

Phase 3 — Reclamation Proposal

Phase 4 — Reclamation Implementation

Phase 5 — Operations and Maintenance

**FIXED-PRICE CONTRACT FOR ALL TASKS IN PHASE 1 AND 5**

**NMED Use Only**

| **SUBCONTRACTORS** | Invoice # | Rate | Unit | # of Units | Total | Project Manager | Auditor |
|---|---|---|---|---|---|---|---|
| **NONTAXABLE** | | | | | | | |
| **N/A** | | | | | | | |
| **NONTAXABLE SUBTOTAL** | | | | | | | |
| **TAXABLE** | | | | | | | |
| Initial Sampling +3 qtrs gw monitoring | | | | | $2,898.00 | | |
| Drilling & Sampling (Hydrogeologic Investigation | | | | | $8,092.35 | | |
| Hydrogeologic Report | | | | | | | |
| **TAXABLE SUBTOTAL** | | | | | $10,990.35 | | |